

CLAIMS:

1. A method of reducing visible flicker in a transfective display device having a plurality of pixels, each pixel comprising a transmissive sub-pixel and a reflective sub-pixel, comprising the steps of:

driving the pixels with an alternating voltage,

5 determining a first desired compensation voltage for reducing the optical flicker of the transmissive sub-pixels and a second desired compensation voltage for reducing the optical flicker of the reflective sub-pixels;

deriving a common compensation voltage from said first desired compensation voltage and said second desired compensation voltage; and

10 applying said common compensation voltage to both the transmissive and the reflective sub-pixels.

2. A method as claimed in claim 1, further comprising the steps of:

determining a lowest available frame frequency setting for which any
15 remaining flicker is invisible; and

setting a frame frequency at which the display is driven to said lowest available frame frequency setting.

3. A method as claimed in claim 2, wherein the lowest available frame frequency
20 setting is selected from a discrete set of frame frequency settings listed in a look-up table.

4. A method as claimed in claim 2, further comprising the step of measuring the intensity of ambient light surrounding the display, and wherein the lowest available frame frequency setting is derived as a function of the intensity of the ambient light.

25 5. A method as claimed in claim 1, wherein the step of determining the first and the second desired compensation voltages comprises the steps of

driving a first flicker sensor related to the transmissive sub-pixels and a second flicker sensor related to the reflective sub-pixels; and

determining the first desired compensation voltage from the output of the first flicker sensor and determining the second desired compensation voltage from the output of the second flicker sensor.

- 5 6. A method as claimed in claim 1, further comprising the step of measuring the intensity of ambient light surrounding the display, wherein the common compensation voltage is derived as a function of the intensity of the ambient light.
7. A method as claimed in claim 1, wherein the display device is illuminated by means of a backlight, and wherein the common compensation voltage is derived as a function of a mode of operation of the backlight.
- 10 8. A method as claimed in claim 7, further comprising the steps of measuring the intensity of ambient light surrounding the display and selecting the mode of operation of the backlight as a function of said intensity of ambient light.
- 15 9. A method as claimed in claim 1, wherein the common compensation voltage is derived as the average of the first desired compensation voltage and the second desired compensation voltage.
- 20 10. A method as claimed in claim 1, further comprising the step of altering a data inversion scheme, according to which scheme the pixels are driven, in dependence of a remaining optical flicker.
- 25 11. A transflective display device comprising a plurality of pixels, each pixel comprising a transmissive sub-pixel and a reflective sub-pixel, the device further comprising electrical circuitry and driver circuitry, arranged to drive the pixels with an alternating voltage, characterized in that:
- 30 means are provided for determining a first desired compensation voltage for reducing the optical flicker of the transmissive sub-pixels and a second desired compensation voltage for reducing the optical flicker of the reflective sub-pixels;
- the electrical circuitry is arranged to derive a common compensation voltage from said first desired compensation voltage and said second desired compensation voltage;

and in that

the driver circuitry is arranged to apply said common compensation voltage to both the transmissive sub-pixels and the reflective sub-pixels.

5 12. A display device as claimed in claim 11, the display device being a transfective liquid crystal display device.

13. A display device as claimed in claim 11, having a predefined set of available frame frequency settings and in which the electrical circuitry is arranged to determine a
10 lowest available frame frequency setting for which flicker is invisible, and to set a frame frequency to said lowest available frame frequency setting.

14. A display device as claimed in claim 13, further comprising a sensor for measuring an intensity of ambient light surrounding the display, and wherein the electrical
15 circuitry is arranged to determine the lowest available frame frequency setting for which flicker is invisible as a function of the intensity of the ambient light.

15. A display device as claimed in claim 11, comprising:
a transmissive flicker sensor, arranged to determine a first internal voltage;
20 and
a reflective flicker sensor, arranged to determine a second internal voltage, the electrical circuitry being arranged to derive the first desired compensation voltage from the first internal voltage and the second desired compensation voltage from the second internal voltage.

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16. A display device as claimed in claim 11, further comprising a common electrode, common to each transmissive and reflective sub-pixel, wherein driver circuitry is arranged to apply the common compensation voltage to said common electrode.

30 17. A display device as claimed in claim 11, further comprising a sensor for measuring the intensity of ambient light surrounding the display, wherein the electrical circuitry is arranged to derive the common compensation voltage as a function of the intensity of the ambient light.

18. A display device as claimed in claim 12, further comprising a backlight, wherein the electrical circuitry is arranged to derive the common compensation voltage as a function of a mode of operation of the backlight.

- 5 19. A display device according to claim 18, further comprising a sensor for measuring the intensity of ambient light surrounding the display, and wherein the electrical circuitry is arranged to select the mode of operation of the backlight as a function the intensity of ambient light.